# FIPS 201 Evaluation Program -
# Electronic Personalization Test Procedure

Version 2.0.0
June 30, 2006

# Document History

| Status | Version | Date | Comment | Audience |
|---|---|---|---|---|
| Draft | 0.0.1 | 04/28/06 | Document creation. | Limited |
| Draft | 0.0.2 | 05/11/06 | Document update. | Limited |
| Draft | 0.1.0 | 05/11/06 | Submitted to GSA for approval. | GSA |
| Draft | 0.1.1 | 05/11/06 | Changes made per GSA comment. | Limited |
| Approved | 1.0.0 | 05/11/06 | Approved by GSA. | Public |
| Revision | 1.0.1 | 06/29/06 | Updated based on feedback from GSA. | Limited |
| Revision | 1.1.0 | 06/29/06 | Submitted to GSA for approval. | GSA |
| Approved | 2.0.0 | 06/30/06 | Approved by GSA. | Public |

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# 1 Overview

Homeland Security Presidential Directive-12 (HSPD-12) - "*Policy for a Common Identification Standard for Federal Employees and Contractors*" directed the promulgation of a new Federal standard for a secure and reliable form of identification issued by all Federal Agencies to their employees and contractors.

In addition to derived test requirements developed to test conformance to the NIST standard, GSA has established interoperability and performance metrics to further determine product suitability. Vendors whose products and services are deemed to be conformant with NIST standards and the GSA interoperability and performance criteria will be eligible to sell their products and services to the Federal Government.

## 1.1 Identification

This document provides the detailed test procedure that needs to be executed by the Lab in order to evaluate the Electronic Personalization Product or Service against the subset of applicable requirements that need to be electronically tested for this category.

# 2 Testing Process

As previously mentioned, this document prescribes detailed test steps that need to be executed in order to test the requirements applicable for this category. Please note that conformance to the tests specified in this document will not result in the Product or Service being compliant to the applicable requirements of FIPS 201. The Product or Service must undergo an evaluation using all the evaluation criteria listed for that category prior to being deemed as compliant. Only products and services that have successfully completed the entire Approval Process will be designated as conformant to the Standard. To this effect, this document only provides details for the evaluation using the Lab Test Data Report approval mechanism.

A Lab Engineer follows the steps outlined below in order to test those requirements that have been identified to be electronically tested. The end result is a compilation of the observed behavior of the submitted PIV Card in the Lab Test Data Report.

Section 3 provides the test procedures that need to be executed for evaluating the Product or Service as conformant to the requirements of FIPS 201.

# 3 Test Procedure for Electronic Personalization

## 3.1 Requirements

The following table provides a reference to the requirements that need to be electronically tested within the Lab as outlined in the Approval Procedures document for the Product and Service. The test cases that are used to check compliance to the requirements are cross-referenced in the table below.

| Identifier # | Requirement Description | Source | Test Case # |
|---|---|---|---|
| EP.1 | To activate the card for personalization or update, the card management system shall perform a challenge response protocol using cryptographic keys stored on the card in accordance with SP 800-73. | FIPS 201, Section 4.1.6.2 | EP-TP.1 |
| EP.12 | The personalized card shall be tested to the SP 800-85B test tool for data format compliance. | Derived | EP-TP.2 |

**Table 1 - Applicable Requirements**

## 3.2 Test Components

### 3.2.1 Baseline Configuration

The baseline configuration describes initial state of the Test System and its associated components. A Lab Engineer commences execution of this test procedure after performing the necessary updates to the baseline configuration based on the requirements of the test cases described below.

The test system includes the following components as part of its baseline configuration:

1. The Test System – It includes the workstation, the SP 800-85B conformance tool, related software, and the necessary drivers for the CREADER.

### 3.2.2 Components Details

This section lists all the components required by the Lab to execute this test procedure.

| # | Component | Component Details | Identifier |
|---|---|---|---|
| 1 | Test System | The workstation, running the SP 800-85B conformance test tool. | HOST |
| 2 | PIV Card Reader (contact) | TBD | CREADER |
| 3 | The populated PIV | - | PROD |

| # | Component | Component Details | Identifier |
|---|---|---|---|
| | Card which is under test | | |

**Table 2 - Test Procedure: Components**

## 3.3 Test Cases

This section discusses the various test cases that are needed to test the populated PIV Card against the requirements mentioned above.

### 3.3.1 Test Case EP-TP.1

#### *3.3.1.1 Purpose*

The purpose of this test is to verify whether the PIV Card submitted will allow data to be written to the card without first performing a cryptographic challenge response with the card.

#### *3.3.1.2 Test Setup*

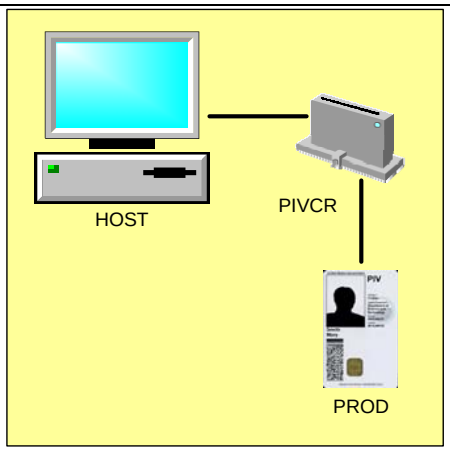
| | |
|---|---|
| **Equipment:** | The following components are necessary for executing this test case:<br>▪ HOST<br>▪ CREADER<br>▪ PROD |
| **Configuration Diagram:** |  |
| **Preparation:** | ▪ Connect the CREADER into the appropriate port on the HOST.<br>▪ Verify that the CREADER is correctly installed by reviewing its presence in list of hardware using the device manager of the host system. |

**Figure 1 - Configuration Diagram for Test Case EP-TP.1**

#### *3.3.1.3 Test Process*

| | |
|---|---|
| **Test Steps:** | 1. Select the Test Case radio button corresponding to EP-TP.1<br>2. Make sure the details of PROD are entered into the Test Application by selecting File → Edit Reference Contact Card |

| | |
|---|---|
| | Implementation Info menu of the top of the Application window (See Figure 7 - Reference Card Information (Contact).<br>3. Insert PROD into PIVCR.<br>4. Click on the "Execute Test" button. Follow the steps on the screen.<br>5. Verify that the test has completed by viewing the result on the screen.<br>6. Print a copy of the report for PROD. |
| **Expected Result(s):** | 1. The test completes successfully showing that:<br>▪ The data on the PIV card submitted for testing cannot be updated without first completing a cryptographic challenge response with the card. |

### 3.3.2 Test Case EP-TP.2

#### *3.3.2.1 Purpose*

The purpose of this test is to verify whether the PIV Card submitted is successfully completing the SP 800-85B conformance testing. <*Specifics of 800-85B testing to be added with the release of the 800-85B document*>

#### *3.3.2.2 Test Setup*

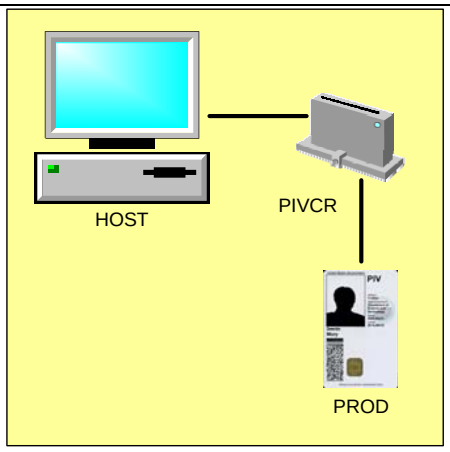
| | |
|---|---|
| **Equipment:** | The following components are necessary for executing this test case:<br>▪ HOST<br>▪ CREADER<br>▪ PROD |
| **Configuration Diagram:** |  |

**Figure 2 - Configuration Diagram for Test Case EP-TP.2**

| | |
|---|---|
| **Preparation:** | ▪ Connect the CREADER into the appropriate port on the HOST.<br>▪ Verify that the CREADER is correctly installed by reviewing its presence in list of hardware using the device manager of the host system. |

#### *3.3.2.3 Test Process*

| | |
|---|---|
| **Test Steps:** | 7. Insert the PROD into the CREADER<br>8. Execute the SP 800-85B conformance tool<br>*9. <Intermediate steps are unknown at this time>*<br>10. Verify that the test has completed by viewing the result on the screen.<br>11. Print a copy of the report for PROD. |
| **Expected Result(s):** | 1. The test completes successfully showing that:<br>▪ The objects on the PIV Card are conformant to the requirements of SP 800-85B. |

# 4 Electronic Personalization Test Application Screens

## 4.1 Testing Screen

The following represents a screen shot of the test application while performing the test for the populated PIV Card.

*<To be provided when screen shot is available>*

## 4.2 Test Report Screen

The following represents a screen shot of the test report that is generated by the Test Application after the Electronic Personalization testing has been completed. It provides the Lab Engineer with a reference of what to expect as a result of successful execution of the test procedure. A Lab Engineer is not expected to fill out any portion of the report manually.

*<To be provided when screen shot is available>*

## 4.3 SP 800-85B Testing Screen

The following screenshot is of the NIST 800-85B Data Conformance Test Tool.

*<To be provided when screen shot is available>*

## 4.4 SP 800-85B Test Report Screen

The following represents a screen shot of the test report that is generated by the NIST 800-85B application after testing the populated PIV Card against the specifications for the different data elements. It provides the Lab Engineer with a reference of what to expect as a result of successful execution of the test procedure.

*<To be provided when screen shot is available>*